

Remarks

Applicants have cancelled claims 8 to 10, amended claims 1 to 4 and added claims 11 to 13. Applicants respectfully request reconsideration in view of the amendments and the following remarks.

In response to the restriction requirement, Applicants confirm the election of the Group I claims and have cancelled claims 8 to 10. In view of the cancellation of claims 8 to 10, Applicants respectfully submit that the restriction requirement is now moot.

Claims 1 and 4 now include R_1 being an unsubstituted aryl, alkyl, aralkyl, or alkaryl group. The specification's paragraph 21 provides a basis for the limitation. Claim 2 contains amendments for proper dependency from amended claim 1 and claim 3 includes an amendment with respect to form. Applicants respectfully submit that the amendments enter no new matter.

Newly submitted claim 11 includes a 0.1 to 10 silica particles (Pars. 24 to 26); 0 to 10 oxidizing agent (Par. 29); 0.25 to 4 benzotriazole (Par. 31); a pH of 1.5 to 4 adjusted with an inorganic adjusting agent (Par. 33 and 34); and 0.02 to 2 organic-containing ammonium salt selected from at least one of tetraethyl ammonium salts, tetrabutylammonium salts, benzyltributylammonium salts, benzyltrimethylammonium salts and benzyltriethylammonium salts (Par. 22 and 23). Example 3 provides support for claim 12 directed to a tetrabutyl ammonium salt. Finally, paragraphs 33 and 34 provide support for newly submitted claim 13 that claims a pH of 2 to 3 adjusted with nitric acid.

The action rejects claim 3 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. In response Applicants have amended the language of claim 3 to "[X] selected from A, B and C" form for exact consistency with the MPEP. The specification at paragraph 22, lines 7 to 15 provide a basis for the open language. Furthermore, the MPEP, Eighth Edition Revision 1, Volume II, Appendix AI (PCT) at pages AI-71 to AI-72 (Specifically, Example 20) and Training Materials For Examining Patent Applications with Respect to 35 U.S.C. Section 112, First Paragraph – Enablement Chemical/ Biotechnical Applications, released August, 1996, [<http://www.uspto.gov/web/offices/pac/dapp/1pecba.htm>], (Specifically, Examples H and J) make it clear that the phrase "X selected from A, B and C" is proper claim language. In view of the

above, Applicants respectfully submit that amended claim 3 has proper claim form under 35 U.S.C. § 112, second paragraph.

The action rejects claims 1 to 3 under 35 U.S.C. § 103(a) as being unpatentable over Honda et al. (US Pat. No. 6,361,712) in view of Andideh et al. (US Pat. No. 6,548,399 and Wolf, *Silicon Processing for the VLSI Era*, Vol. 4, Lattice Press (2002)). Honda et al. disclose an abrasive-free solution for etching copper oxide, not polishing composition—unlike Honda et al., Applicants claim an abrasive-containing polishing composition. In addition, Honda et al. disclose a base for adjusting pH not the claimed organic-containing ammonium salt and disclosed fluorine salts accelerate the removal of copper oxides. Finally, the Honda et al. solution does not disclose an inhibitor for the interconnect metal. Thus, since Honda et al. disclose an abrasive-free copper oxide etching solution rather than a polishing solution, fail to disclose the salt for accelerating TEOS removal rate and do not disclose an inhibitor for the interconnect metal, Applicants respectfully submit that the combined references do not render claims 1 to 3, as amended, obvious under 35 U.S.C. § 103(a).

The action rejects claims 4 to 7 under 35 U.S.C. § 103(a) as being unpatentable over Mahulikar (US Pat. No. 6,776,696 in view of Andideh (US Pat. No. 6,548,399)). Mahulikar discloses the use of ethylenediammonium difluoride and ethylenetriammonium trifluoride to increase the selectivity of tantalum and tantalum compounds. Unlike these nitrogen-substituted ammonium compounds, Applicants claim R_1 being an unsubstituted aryl, alkyl, aralkyl, or alkaryl group that accelerates TEOS removal rate. Furthermore, Mahulikar fails to disclose the use of an organic-containing ammonium salt accelerate TEOS (a silicon oxide compound) removal and decrease removal of at least one coating selected from the group consisting of SiC, SiCN, Si₃N₄ and SiCO with at least one polishing pressure less than 21.7 kPa. In particular, Mahulikar teaches away from the claimed invention at Col. 6, lines 58 to 66, by teaching that fluorine compounds increase tantalum and tantalum compound removal rates in relation to silicon oxide. The Andideh reference does teach the use of a silicon nitride stop layer, but it also does not disclose the claimed ammonium compound for accelerating TEOS removal rate. Thus, since the Mahulikar reference does not disclose or suggest R_1 being an unsubstituted aryl, alkyl, aralkyl, or alkaryl group that accelerates TEOS removal rate and teaches it away with respect

to silicon oxide removal rate, Applicants respectfully submit that the combined references do not disclose or suggest claims 4 to 7, as amended.

Applicants respectfully request reconsideration and submit that the amended claims are in proper form for allowance. If a call would expedite prosecution, please call me at (302) 283-2136.

Respectfully submitted,

August 26, 2005
Date



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